



SEQUENCE LISTING

<110> CHELLY et al.

<120> GENE CALLED OLIGOPHRENIN1 . . .

<130> P06780US0/BAS

<140> US 09/581,422

<141> 2001-11-20

<150> PCT/EP98/08557

<151> 1998-12-14

<150> EP 97 403 050.4

<151> 1997-12-15

<160> 27

<170> PatentIn version 3.1

<210> 1

<211> 1650

<212> DNA

<213> Homo sapiens

<400> 1

RECEIVED

SEP 11 2002

TECH CENTER 1600/2900

tttttcaacc catggtgcat ttaaagctca ttttggacat tttcccataa attaacctta 60
aagataaaaa gagtaagaaa caaaactttc ccctgagatg tggtactta tttattttca 120
gagggcgttt tctcattgcc attctgctat atagtgtagt ggtcaagagc actacctta 180
gagccagcca ggctgggctc aagttcaagt gctgccatth aactagctgt ttgtccttcg 240
gcaagtcact taaactctct ttgaccagc ttctccatct ttaaattgggt ataataataa 300
aaccatcctc ataggggtgt tttgaagatt agtgagatgg gcgataggtt gtgtggtggg 360
tagaataatg tttcctcctt cacagatgtc catgtcctgt cctgaaacct gtggctacgt 420
tatcttatgt ggcaaaatga aatttgcaga tgtgattaag gatgatgtga tgggggagat 480
tatcctgtgg acccagtgt atcataaggg tccttaaggg gaggcagag aatcacagtg 540
atgtagcatg agaaagactt gactggccag tgctagcttt aaagacggag gaaggagct 600
atgagccaaa ggatgtgagc agcttgagcc ggaaaaggta aggaaccaga ttctaccct 660
agactatctg aaaatgaaca caacccttct aacatcttga tttgatccca gtgaggccca 720
tttctgattt ctgccttctg gaactgtaga ttataacttt atgctgattt aggacatcaa 780
gtttgtggtg atttgtcaca gcagcagcaa caggacctaa ttcaggtggg tcagccaata 840

ttattctatt tacaaccccc ttccgttctg gctttcttca cagggcaatc taatgtaaac	900
acttctgcag aattaaaggg atctctttgc ccacgcacaa actatTTTTT agtttttcca	960
gcctctacct acccttagtc tcaagacagc tgcctttaag gtaagctgca agacaattta	1020
taacatccta ttcttagact ttccacttac acatggaaaa tcatatgcat tatcggcgtc	1080
tgccacaaaa gccatgctct gaggtcctat tcaggaaaat attaaactctg aattatggcc	1140
tccctttctt tggcaggggg cactgagctt cacggagacc ctagagtagg aatcaaccct	1200
tcaggtgga ggcaccaagg aattagagca cttagagcag gagacatggg aaaagaaaga	1260
ggaaaaagaag ttggtaggtc cgaaggaggc tggaaagagg ggaaggcaaa agaatacaca	1320
accagccga atcatgggaa gtgagagatg gcttcttcca atctagtctt gcgggttctt	1380
gctctagttt cggaacttc cccgcagag tccagcgccg cgcacctgcc ccttggggcc	1440
ggtccctgcg caggagcctg cggcaggctg ggaatgccgt tctgggagag cagcctccca	1500
ggcgggggtg tggggagact gcagggagga gttttgggga gtgcaaacgg aaagactaca	1560
tttcccaggc cgccacgctt tccagctgga gtcttagggc gctgactgct cccagtttc	1620
cgtagggaag cgctgggcta ccgcggtat	1650

<210> 2
 <211> 1079
 <212> DNA
 <213> Homo sapiens

 <220>
 <221> misc_feature
 <222> (970, 1042)
 <223> n=(a or c or t or g)

<400> 2	
tgtgcgtcgc gctctgccc tctcttccc gctgcagtgt ctatggagcg aggtacgtt	60
tcattgccgc cctggcttaa ccttccggc gcctaaaagg acggccggcc ggccggtccc	120
ttgcaccagg aagaagtctt agcagccagc gggccctggt caggaaactc taaggtaaa	180
ggaaaacagt tgaggaagga gccagagcgc tccggtttgg tctcgggct tcgctggggc	240
ggggcgcagg cgttggcttt aagaaagggg aggggacagt gcaatccggg ttgcccgcg	300
attcggccaa ggaatcttcc gctcgtccg gagcgaggag cctgtaaaga ggctgttccc	360
agctccagct ctaacctgc ctacaccttg ggcgggccca atgtcacgtt tgcaattgct	420
caggaaggat ccggcccgtc tccggaggca agtcgggctg cggtttttgc tgcttatctg	480

ggaaggcgat gcctaaggga catgctgctt gctaggcagc accctgccgg gatccgactg	540
cgatagttag ctctccctgg ccctgaagcc atcgccgggg cgccgtgttct ctgtccggac	600
cagccagcgc tcctcaggag tctcactgaa acagggtacct gtcctccaaa gggacggagg	660
ctatgagctt ccttaagcgg gtcgcgcgct cagtccgtcc cctctacttc ctctactgtg	720
ccattgatgc tctcgggtctt tgtgtctttc ccctttcccc ctactcccgg ccatcagaac	780
catgggtcat cccccgctgg agttcagcga ctgctacctg gacagccccg atttccgcga	840
gagggtcaag tgttatgagc aggaactgga gaggaccaac aaattcatca aagacgtaat	900
caaagacggc aacgcgctta tcagcgctat gagaagtaag tgcaaggctt cgatgagctg	960
tttctctgan ctggtgtgtc tggcctttaa gcctttccac accaccaggg gaagggagat	1020
tgcaggggtga ctcccagccc anatctctga ggcaaatggg tttccacacac ttggggagt	1079

<210> 3
 <211> 900
 <212> DNA
 <213> Homo sapiens

<400> 3

ctttgaactc cacacgtata aaatggaaag catctagtgt attgccata ataggggttt	60
aggaaatgtg taaggagacc ctcttaagag tatacttaag tagtttcatg tcttccatgc	120
tttgagtgga acaggtcaga gaggagaggt gttgaggata aaaacatgtc ccgtaacttt	180
taaggacttt actgagatgc cccatccttt cttcttgtga ttttagttgt tcaaactttc	240
ttctactgca tatctaactt tttgttttat ttcattaaat gctagttgca acctgctcag	300
agcacttacc tttgggttttc ttttatctgc tcttatagag atgaggaaat agatcaaagc	360
atagcattgt tgaacatttc tcttgttacc cttcctttgc agattattct tctgctgttc	420
agaaattttc ccagacgctg cagtcatttc agtttgattt cattggagac actctgactg	480
atgatgaaat taacatcggg aagtcttcag ctacatgtgg tcatatacct gttgaggcag	540
ccctgagacc atgtagtctt tttgatttgt ggatacagag cacttggaca tcttcatcca	600
ctgtgggtcca atgccaaggc cctgggaggt tgattaggaa ggatcaggaa actttccctg	660
ccagtcccat ttcctcctca cagcacagca atcaaaagat acccttaaac ttctactgag	720
atttttgact cagacagtct gcaagcgacc ttttctttaa agcatagtta ttttccataa	780
ggatatatta aaagggggac ttttttggtt tatttcccaa aatgggttga gttagattct	840

tctaaggaat caaatttccc tagaaagtgt taaattagca tttgtgtgtc tacaacttat 900

<210> 4
<211> 960
<212> DNA
<213> Homo sapiens

<400> 4

tagaagagta gaaagtttgg gaggggtggaa agggtaatgt ttattattta ctttgtgttg 60
acactacatt caccatccaa tttagttttt acagcaatag tctctggttg gtcagttagtg 120
gaacagggat ccaaactcgt ttcagggttc tatagctgcc aattaattac acagcaaacc 180
tcttgcccct tcctaattct tttagcttgt ctatgaaata agagaaattc tagctactcc 240
tgagtggctg taaggattaa ataaaatatt aaagtgtatg gggattgata aaagaggaaa 300
gaaaagaaaa gaaacattca acagggtgctg aacacctgct tttgtcctcc gatttgacac 360
cttctcttag tggccatgtg ggcatagggc actggctcct acttctgtt gcacagatct 420
ctatccattt gtctgtcaag caccatgatt aatttgtttt acatttgatt ctctccttcc 480
agctgaatcc ttcaaggaat ttgctgaatt gctcaacgag gtagaaaatg agaggatgat 540
gatggtaagt cactaacgct gtcactgaag ctgagttcat gggatgata ggggattttt 600
cctttccttt atgcttggat tgatcctata ctattttgat ttctgtcaga tagcttcttg 660
gtgctataaa aatagttagg taatagatct gggtattatg tctcaagctt ccacctgag 720
agtttggcat tagatagagg gaaattaacg tgcaaatacc atctgtgttc atttcagtga 780
aaaataattt cagtggatat taaactgggc ctttgaacat gttgacagaa attgaggtct 840
ttagtgtttt tagccaaatt atccatttgt taatctttaa tttgtggagt agttttactt 900
ttatagagaa aatcagtaga aaataaagat agaactcata taccaccttt ctctctccca 960

<210> 5
<211> 960
<212> DNA
<213> Homo sapiens

<400> 5

tctggtttta tggcacaggc aggactgtaa atgttttato ctaatgctat cactgcacac 60
tcatttgcct ctgatgaaat gatttgcact tgctgcaatt gtccttttct tgtatttgcc 120
attctctttc tcttctcttt ttcacctgtc cttcagggtct cctgtgtcct ctgctggaca 180
tcacttcaga tatttatoga ttaaaaactc aggtcagact atcattaaag ttacagagaa 240

atgcccctct tattctttct cccatttctt ctcaatgcat ttgatttttc agaaacaata 300
 tagaaacaaa cagtaacaaa acccaacaaa tcagcaaacc atttaacatt ttgcaggttg 360
 gtatataaat gaaaatgtag taacaaggaa tcttgtatct gaacottgtt aacctagaaa 420
 ttgttttgtt tgtttttctt ttttgtctag gtacacaatg ctagtgattt gctgattaaa 480
 cccttgaaaa atttccggaa ggaacaaata ggcttcacca aggtacattt tctgtatatg 540
 cataagattt tttaaaatag caatcgaata gttgtatggg ctactattct tcactttaca 600
 aagatatgca ccaatctgct ggtgctttgc tcttggccta gtcagcctcc taaactgtgc 660
 aaaataaatg tttgttgtt atgtcaccct gtctatggca ttctgttata gtagcctcag 720
 ctaacatgac aaagggggtg gggaggtggg tgattagttt ctatgagaaa atgatcacga 780
 aagagagtaa gaaaatctag aattggcctc tgactttgtg gccaacaggc tctgtatctg 840
 tgcataagtt tcttcttctt ttgggtgttt tgttgttttg tctggaaaac tagctagcta 900
 tcatgtatca actgcctgct atattgagca ctaggctagg tgctttacgt tcattcttta 960

<210> 6
 <211> 1020
 <212> DNA
 <213> Homo sapiens

<400> 6

cattgtagat taaccttttc atgacaaata ttactttcca ttgtgttat gtctttcttc 60
 ttgtgaagaa aatttgaatg agtgggtaat ctatgtgaaa aatattggag ggaagaaaat 120
 atatctactg cacaggccct tttaaggtat cattctctaa ggagcagctt ccatagcttt 180
 cagctgtaaa aatagggact gccattttctg caggcagaat ggtttggggg tatatttcag 240
 gaagctgaaa ctgctgagac caatacaaag ttaattctcc gttgcttttt ttctcttcca 300
 ggagctagag ggattgacca cctgaaacct gacactatct ccttcattct cctttctaag 360
 cagacagagt tacaactaca gacatttaat ctttgccctt ctttcccacc tttaggagcg 420
 gaaaaagaaa ttgaaaagg atggtgagag gttttattct ttactggatc ggcacttaca 480
 cctgtcttca aaaaagaaag aatctcagtt acaagaggta tggtcacaaa gcctgccct 540
 gccttcatt gctagctatg ccttagaaac agtgtgaatt ttgtactgca aggcttttcc 600
 cataccccgt ctgagcaggg aacctcatgt gatagtagca cttgtagtca aaactgtggc 660
 ctgagactca gaagccctga atactaagcc agctcttcca ctaactcagg gtgtgacctt 720

ggataggata cttctttctt tgccctcattc cattatctgt aagaagagga gtcgagagtc 780
 cctttcaatt gcaagtccaa aatccatgcg aggataaagt taaactagtg ttgtatttgg 840
 tagaaatcag gaacagatct tctacttttt tccctgagag attccacaac cttttttttt 900
 tttttttttt ttggtgaggg gttaggggaa tgttctgttt tgggactact ggttacctgg 960
 gacttgcagt gccttcagtt caaataagct accattcggt gagaccctac cacatgccat 1020

<210> 7
 <211> 1020
 <212> DNA
 <213> Homo sapiens

<400> 7

ctttcttgt taaataagac ttgagacttg cagttctttc tgttgtaac cctcagtat 60
 tggccatagt agcatgcttc tgttcttggg ctttggccct tgttaatttc ttattctctg 120
 tattcatgtc tctgtagtgt ttgagggagc agattttcct ctgacttcag ttctctgttg 180
 aatataataa aatgtgtgga ttttacactt gttcagcttt tttctttttg tcaggggtgga 240
 tgtaatgact tcaagctttt tatgtgttgg accagaaact ggaatcctgt atcagtcact 300
 tttttatctc ttggcttttag gttctctatt tctaaaataa aaggtaacat cactagttag 360
 tggctaaatg ctcatctagc tctagcattc tgttcaatcc ttaagtactg actttcatga 420
 atgaatatcc caatatgtaa tgtttgtttt ctttcttota caggcagacc tacaggtgga 480
 caaggagagg cacaattttt tcgagtcctc tcttgattat gtttatcaaa tccaggaagt 540
 tcaggagtcc aagaagttca atattgtgga gcctgtaagt tttctctggt gatgaatggt 600
 ctaaaaatat ttatcaaagc cctggtaaag gtacaaactt tgatcataaa aacagaatcc 660
 caaagaacgt gaaggataat cagtggaaat gtctagaacg tagtctaact tacgtttttc 720
 ttgttcttta gtatactttt tttctctctt tcccccaac ctttttctct ctttttctat 780
 ggctattttc tttctctttc ctttttttcc tttctctttc ctccccctt ccggaatttc 840
 tctacaactc ttctgtttac ttgttttccc tcccttctct cttcttgcgc tttcagaagc 900
 ttctgaaagt ctttctcata taccagatac tatgctaggg actcatgtct cttgcagtca 960
 gtgacttctc attctactac ttttacttct gtcttgtgta gttttttccc atttcacggt 1020

<210> 8
 <211> 479
 <212> DNA
 <213> Homo sapiens

<400> 8

gcgccaccac gccagctaa tttttgtatt tttagtagag atgggatttc accatgttgg 60
tcaggctggg ctcaaactcc tgacctcacg atctgcccgc ctgggcctcc caaagtgcag 120
ggattacagg cataagccac cacaccacgc cacaccatgg agttttttgg tgagttcatg 180
tttcttttat ttagttttatt agaagatgct ggtgataaag ttattttttac atgttttccc 240
taggtcttgg cttttcttca tagtctgttc atttctaaca gcctgactgt ggagctcaca 300
caggatttcc tcccatacaa acaacagctc caactcagtt tacagaatgt gagtttgcag 360
gtggattttt ctcaccggtc tttccattcc gattgaattt cagccctagc gacottgatt 420
cttggaaattc taggttactg catcctagcc aatttgttag aatatactgg tgtggatca 479

<210> 9

<211> 600

<212> DNA

<213> Homo sapiens

<400> 9

accatttctt tttttgcttt gtggttgac atgctgtaag cagggaaaac tttgtactga 60
gtctctgacc aagaaatact ttttcatgat aatgatgatg ataataatga ttttcatgat 120
gatgtcttga cagacaagaa atcatttctc cagtaccogg gaagagatgg aagaacttaa 180
gaaaaggatg aaagaagctc cccagacatg caaacttcca ggacagccaa ctattgaagg 240
ctatctctat acacaagaga aatgtgtgtg gggacatagg ggtatccatt gggtttcaat 300
aagccaggaa gtactgccac ttgtcggctg tgaattttgg gcacccttac tgttcataga 360
cccctgatag ctaaaattcc cttggaacgc aggcaggga tactgaaaac aaaaaaaaaa 420
aaaggagaaa ctgagaggaa gttaaagatt tgtcttacia aggctgtgta gtgataagac 480
ctaaggtttt ctctgagatt caaaatgggt attatttgtt ctttaatect tctgattatt 540
cttttggaia aaaggaagt agaggaaagg aagtagaaaa ataataattc ttataattat 600

<210> 10

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 10

B'
CA

agagagatgt gtagagtcac gtacagggtta gaagggggcat aaccaaatga ccaatgacat 60
 ggaacagtta tagagacagc aaagtaaag acaatagtct ccagcttctg ggatatatgg 120
 tgatacaatt tatagggaac atggcaggga gagtaggttt tgagcaagcc agaagcagct 180
 gtgggaagca gttggtgaag gttagaatct ccctgtgtgc agtaggtagg tggctatgga 240
 aggagggcgg tcagggcaag ggcagggtg gatctgaagt ttgactctga agagcaatgt 300
 gtaaatagtc tccatcttag ggttgacttc ctatacagct aaaatagtta ttctgtctgc 360
 tcactttttac ttgtccttgt aggggcttta ggaatatact gggtgaaata ctattgccag 420
 tatgagaaag agacaaaaac actgaccatg acgcctatgg agcagaagcc aggtgctaag 480
 caggtcagtt cttgtttgca ccatatTTTT ggaaatggat ctatgactgt ttctcagaaa 540
 agaatatatg ttgacctagt atcaaatcat caagttcatc actgttacgt gaggccatga 600
 ctttatatgt acaccttggc ctaagtttga gtcagatagc actgagttga gtgaaaaatt 660
 tctctgttga ttagagcaag ccttttgaaa gtgccggtag tctttcaaac cagttatTTT 720
 tacaagtgcc agtcacattg tacagtcaac tatgtaaaaa tatggatgaa ttacttttaa 780
 gaatgctcta ctcttggatt ctttaaaata gcaagtttta aaaatatgaa ttgaattcca 840
 aaattccttt ttacaggag tgtgtttatg gccacagtt ggaataaccg atactcacat 900
 tctatgtact actcaaatat ctttaagcag ttaatctctc tttttctgcc ctccaaacct 960
 tctctcactc ctgaaaatga caagataaat ttaacacact gaaaaaaata gtttacttac 1020

<210> 11
 <211> 294
 <212> DNA
 <213> Homo sapiens

<400> 11

ccctagacca gacgccttcc aagtgacact gaagacactg taggaagcag aaacagcttc 60
 tgtgtctttt tttaaaaatt gctgttaaat tottgtttca tatcaggggc ccttggactt 120
 aacactgaag tactgtgtga gaaggaagac ggagtctatc gacaagaggt tctgttttga 180
 catagaaact aatgaaaggt aagctgtgcc gctgtgaatt ggcaatgtcc ccacgtgcc 240
 gatgcttagc ctgggtatgt cttttatTTT cctccgtcat cccacgttga tgac 294

<210> 12
 <211> 494
 <212> DNA
 <213> Homo sapiens

<220>
<221> misc_feature
<222> (370)
<223> n=(a or c or t or g)

<400> 12

ccacccccgc ctccatgggt cccaaagtta ctgttctgta aattgcctat tgtttttctt 60
gagtaaaaga gattttgaaa aattagtatt ctgtaagcct atgcttggtc agtgtgacaa 120
actccagggc agagagggac cctagatcac aagactccat tctctcagtt gaattttctg 180
ctttatactt accatttttt tccccctcag gccaggaacc atcactctgc aggccctttc 240
agaagctaac agaaggctat ggatggaagc catggatggg aaagaacctg taagttacct 300
gacactgggg caaacctccc cagcatatgc cagtgtatga gtgccctcta gtggtatcag 360
tgggtctcan acaattaaat ggtaatggat tgtttagtct cagttttaga gctgtaagga 420
attgtttcca catctcttag caggttaaggc aactggagtt ccagaaaggt tgagggactt 480
ttctgagacc accc 494

<210> 13
<211> 378
<212> DNA
<213> Homo sapiens

<400> 13

ggcatgagcc accacgcctg gctgttcaa gtattttcta gcaatcttgg caaagcaatt 60
atgttttagcc cacttggtta tctttttaac atcctggagt ttctaatacat ttttaatgcc 120
tatctgggga aagatattta atattatggt ctctgttttc ctatattgat tgacaatagc 180
catggatctt tctgtttatc ttcttttgta gatctaccac agccctataa caaacagca 240
agaaagtgag tcaacttaagt ttttgggtcta ctagcattat aaactgccag ctgtccgatt 300
catagtaaata accatcatta atgatgtgta ctactaacgc aagtctgaat atggatgcct 360
ttgtgtgaaa taaaatto 378

<210> 14
<211> 393
<212> DNA
<213> Homo sapiens

<400> 14

aaaatgttaa acctcccctg aaaaaatgac tctttccatt taagggtgac tagaaatgag	60
caactaaaaa cccttagctc tctcaatgca gtccctttgc atggtcatta aatgtttaat	120
agggtgacacc tgttgcagca ggatctaact cttttccttt gcttgaaaca gtggagctaa	180
atgaagtggg cttcaagttt gtcaggaagt gcatcaatat tattgagacc aaaggtaaga	240
tctgaaccat agtcttggca ttgtctgaat ctcgtcactc tgattttatc ctgggcaatt	300
tctctgaagt agcgtttttag gaatgaagac tgtttataaa gcttggtgtag tagatgcaag	360
ctagaaaatt tcagaaaatt ctaaactagt ggt	393

<210> 15
 <211> 436
 <212> DNA
 <213> Homo sapiens

<400> 15

agattaatga gggtttggtgta cactccaaat gaaaggatgg ataatttgga gagatgctgt	60
aggactattc ccctgttaca gggaaggctg gagaacttgg agtatgtagt gtgacccctt	120
cctatctgaa ttgactctag tgtaccaagg ggagatgaca acttttagcta tacaagtga	180
attaacctga ttttttcctc cactagggat caagacagaa gggttgtacc gcactgtggg	240
cagcaatatt caggttcaga agctgctgaa tgcctttttt ggtaacaatt tcactttgat	300
aattcttatt gggagtactt tatgtgttac aaagaaatgt gactggaaga gaaaggagac	360
actgctaaaa tgtggtagaa tagttgaaaa aagtattttc taaagtaaaa catacacata	420
cttgcccacc ctgggc	436

<210> 16
 <211> 547
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (9, 12, 32, 36, 84, 161, 182, 466, 496, 508)
 <223> n=(a or c or t or g)

<400> 16

accccagtna tntgatgaat ctaagaagag tngatnttgt ttgttcagtt ttttcttgtt	60
---	----

gtgtgaattg gatagattac tttnttattt cttatatggc agaccagaat gcagtcatgt 120
 ttttgaaata tcaaagattt gcttcttcta aagttttgat ntcttaaaaa ctacttaggg 180
 tnatatactt tggttttctt ttaaaagagg gaaaatgtaa gatttttttg atgattaact 240
 tttgtttttt gtttactttt ctcaaataga tcttaaagtc ccaggagatg ttgattttca 300
 taatagtgcac tgggacatta agacaatcac cagctccttg aaattctacc tcagggtatgc 360
 ctgatttgaa ttgggagttt gcttttcata gctggtgaaa tttctctggg tgttgagcgg 420
 agttaacgtg gtctcagttc caggagtttg gatacaattg cttaanaaaa aacatgtgaa 480
 gaggatttct ggccangaat gtgcaaanac tgttttttta atctgagagt ttaagcaaga 540
 gaagcat 547

<210> 17
 <211> 601
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (123, 319, 586)
 <223> n=(a or c or t or g)

<400> 17

ggacaattgc aaaagcactt cggaaattct aaggatctat caaatcgtaa gggattcatg 60
 gtagcattca gcatgggtcc cctctggaat ttgacaggac tggtttggtc ctctttttac 120
 ttntggggagc tagttggaga ccttgctaga gggctcagcc catgtttttg caggctcttt 180
 gttgaattac tagcaacttg gattccctga cgaagcttca ggtgaagaga aaaatgtata 240
 taatcccact aagctgtagg gctcaggaac ttcagccttg ctgtccccag aactaagaat 300
 ccaataccca gctgctttnt tcccaaagca actgacaatt ttcattcatt tcaggaatct 360
 ttctgaacct gtcattgacct atagacttca caaagagctg gtctctgctg ccagtaagta 420
 tttatgttac taattaactg tggtgtccta gtttcttaat gtttactgca ataagcctag 480
 aaaattgttt gaggggaagt gattgagggc acagaaacct aaaacacata cacaaattat 540
 gcacaactgc caaatgaaag tattcttgct tgctgtctaa ctcaanaatt ctattatttt 600
 t 601

<210> 18
 <211> 387

<212> DNA
<213> Homo sapiens

<400> 18

gtgcatatat atgtgagaat tttgctcaat ccagtagccc agaaagccaa accatttata 60
tcttactgtt ctatcccaga gtctgacaac ctggattacc gcctaggagc tattcaactcc 120
ctggtatata agctaccaga aaagaaccga gagatgctgg aacttctgat aagacacttg 180
gtcaagtaag taactgctgg attttcagaa aaagttccta ttagaggact ggcccatgtg 240
gttggtactac acagaaactg cctctcagct ctttcagccc cagcccttaa gtgcttcctt 300
ggaagctgaa tgctctgtga ggaaggctat tttgcottga cccatgtaca tatectotta 360
gagtcacat gcatgtggat tgtctca 387

<210> 19
<211> 460
<212> DNA
<213> Homo sapiens

<400> 19

aacagcacct aaaacagtct tggttgtaag gggatactgg agcaaatttt gttaatcttg 60
ccccctttct tctggcagtg tgtgtgagca cagcaaagag aatcttatga cccctccaa 120
catgggagta atctttgggc ccacctgat gagagctcag gaggacactg tggccgcat 180
gatgaacatc aaattccaga acatagtggg ggaataacta atcgagcact ttggcaaggt 240
atgcattttc tattctcact acctgtcttc caaacatgtg acactttccc ccaactgcct 300
tttagtgctg tgtcttcctc cttggctcac gttgacagtg aaaggaaatc ccattatgac 360
acaatgacat ttaatggcaa ctctgacct gggaaattca ttcattcagc aaacattgct 420
taagcttata actatattat ttccagacac catgctaaat 460

<210> 20
<211> 512
<212> DNA
<213> Homo sapiens

<220>

<221> misc_feature

<222> (27, 50, 54, 72, 124, 158, 186, 192, 196, 203, 211, 222, 387, 424, 425, 428, 430, 437, 466, 483, 494)

<223> n=(a or c or t or g)

<400> 20

tcttcctaaac tgagaagtgc cagggttntgt gccttgagca tagtaggagn tacntaaaca	60
tttacctgta gntagagtga ttaagaaaat ctctgattct ttgagtcagtg ttagtattca	120
cgtnacaaac tctagatata aggccaacaa gcatcaantg gtgggtagca ttcagaagac	180
aaaaanttga tntaantatt cntagatat nttccttctt tntccacaga tctatttagg	240
tccacctgag gaaagcgctg caccgccagt gcctccgcct cgggtgacag caagaaggca	300
caaaccaatc acgatttcaa agcgcttgct gcgagaaagg acggttttct atacttcttc	360
cctggatgaa agcgaaggct agtactnagg ttctccttta gcttctgaat ggtgattaga	420
cacnnagnan gatatchaat ggctcaagcg gtggcatcac catttntctc tctataaaag	480
tanacctttc ctgnctcctg aacttaaaaag ca	512

<210> 21

<211> 841

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (164)

<223> n=(a or c or t or g)

<400> 21

ggctttacat gaactgggaa gggtagagaa tgattttgtg ggatatagtt ggtttgtgcc	60
acagtgcacat aactgctttg aaaatgtata caaatTTTca aaattaagta tgtatgcatg	120
tatcaaaatg aaaaggTTTT aaaagttatc attaatcttc cctnttggca ccaactTTTc	180
ctagatgaaa tccaacatca aacaccgaat ggtactatca ccagcagcat agaaccccc	240
aagccaccac aacaccccaa actacctatt cagaggagtg gggaaactga tcttgggagg	300
aagtcccaaa gcaggcctat tttggatggc aagttggagc cctgcccaga ggtggacgtg	360
gggaagttgg tgtctaggct gcaggatgga gggaccaaga tcaccccaaa ggccaccaat	420
ggacccatgc caggctctgg gccaccaag accccctctt tccacataaa gagaccagct	480
ccccggcccc tggcccaacca caaggagggg aagtgcttgg gaatcccatg ggagccagag	540
ctgaccctaa ctactTTTca ccttgagatc cttctgagtt tggagatata ttttaagtga	600
aatatgttcc agtttactac cactaatatt ggaacagtgg gcaagatcac aataatcagt	660

cacaataatc actagaatgt aagctccatg agggccggga ttttttacct gttttgttga 720
 cctctatata ccaagtgcta tgtgcctggc actgtactaa ttgctgatata actattttctt 780
 atcctcacia tcccactgta aagaatgtat tattcttaata attttctttt tttttttttt 840
 t 841

<210> 22
 <211> 615
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (103)
 <223> n=(a or c or t or g)

<400> 22

tttaatcctc ccactatctc tgtaagataa tatattgtgg atctttatta tatagctggg 60
 gaaactgaga cttagggaat ggatatgaca cacccaagat atntgaaact ccagagctgg 120
 ggttcaaata tagactttct gaaggacag ttgccagaaa aattacaaaa aaaaaaaaaa 180
 atagccagag ttgttagtca ccaagaagaa atggaggcca aggaagttgg ccaggtaac 240
 tctcatattg ggtgcctgct catgagtagt gttctgtttg gctaaccata caagttcctg 300
 gtatcatttt ctcttccagg ggatgctgac agtttcagca aagtgcgggc tccaggagaa 360
 aagccaacca tcatccgccc ccagtgagg ccccagata ctccctgccg ggcagctact 420
 ccccaaaagc cagaaccaa gccagatatt gtggctggca atgcggggga aatcacatca 480
 tctgtgtcag tagggttgta cctcaaagtt gactgaagtc ctgtactagg ccactaggaa 540
 tgctttcagg atcaccatat taagggtata cagtgcacag ccctggggga tctttcaatt 600
 tatagtctag ggaaa 615

<210> 23
 <211> 475
 <212> DNA
 <213> Homo sapiens

<400> 23

aatggggata aagagtgtca gctatggcct taggggtgcc tatgggctct gggccatttc 60
 acatttgtat gtgtagggcc ttgcccagca aaggcagggg ctggcattgg tgtcccatct 120

ggttcagagt	gtcctgtcct	ttctgttggc	cattggttct	cacgtgtata	ccaaagcaac	180
ttatgggact	tggttggctt	ctgtttgcag	ggtggcttcc	aggaccaggt	tttttgaaac	240
agcttcccg	aaaacaggaa	ggtaagatat	ggaggtgaca	aaagaaaaac	caaatcgct	300
tttaataact	gcataccttag	catacaattg	tgctcactct	aacatcttct	tctttttgtt	360
tctctacagc	tctgtctctg	tctgtcactt	tctcttcccc	aattctgtct	ctccatccct	420
atctgtctgt	cacctgttca	cctgtgtgtc	tatttgtttc	tctcatatct	ttttt	475

<210> 24
 <211> 238
 <212> DNA
 <213> Homo sapiens

<400> 24

ccatttttca	aatggcctct	ttagcactgg	cctagaagtg	tcccccatct	ccccaattta	60
cctttccagt	cctgatttct	agaatcttag	tgaaacgtct	ttctttatcc	acagttctca	120
aggcagactt	cctggagatg	aaagttgagg	ctacaggtat	gcagtcccca	tccctgatta	180
caaaatcttg	ttccacataa	gccttcatta	cgggatctga	tattttgagg	actggaat	238

<210> 25
 <211> 4504
 <212> DNA
 <213> Homo sapiens

<400> 25

gttttaaaaag	ccttggcctc	agaggaccct	ttccagggtc	tgaaagagtc	tttcttcttc	60
aaacctttgt	gtgcggagtc	attttgtgtt	gaagagcagc	tccttcctag	ccttgcactt	120
tcagactctc	tctgggaggc	cataaaataa	ggagcatatg	tcctagacag	gtgtttatat	180
ctcctttgta	ttctgtcttc	atcccctcag	aaggtctgtt	ttgagttcct	ataacactgt	240
gaagagctgg	actccctcaa	gccagactct	gccaaaacca	agatatccac	ttacctgagt	300
tgaagagggg	agctcagttt	tcaactcttc	cctgaacttc	ctgcttcctc	agagggccat	360
tgaactctga	gagatttggg	gctaaagact	gatctcaggg	gtcttacott	gaactgaagg	420
ccacttgagt	tggggccatt	gcttaccttg	gttggaaggg	aatagaaatg	tttgctgaac	480
attggagaat	ctcaacatgt	ctcctactga	ggatatggac	actggtgcca	tgtcagcgct	540
ctgggtgctgc	agtatgttgc	caagagcccc	tctgctcctg	cgaggctatg	agtgggatga	600

gtgatgcccc pacagcacct ccatgtggac ttaggaaggt ggccttcctg ctgttacatg 660
cagccactta ggacaaatct gcaaagcatg ttttgcattgt aaaagcctag gtctatttgg 720
attattcttt ctcttttttt ttgacagctt cctgtcaagc aatcaagaaa caaacaaaag 780
ctgaacacat ttctttttaa aaaaaggaga ctgtgttttg tcctgtagga gttctatttt 840
ggggtcaaat gctagaaaaa ttgttaaggt ggattgaggc caggcagctg tcaactgctgc 900
ttcatgtttg ccttctgcac ataaactctt ttatctcctg aaaaaagcag ttcttaacct 960
agtgtccatg gactcagaaa ctccatgatg cccctgagat ggtatgcaca attccatgac 1020
aatatgcctt ttctggggag atagtccata atgttctgct aaatttcaaa tgggctcgtg 1080
acccaaaaaa gtcaagaacc acagcacttg agttaaata ctctttttac aatccatata 1140
agcccttgat tggaagggtt tttcaaaatc atttagtcta acaactgcc agtttccagt 1200
cgggggaact gaggcagagc aaggtagtga tcacaccagt acaagatttc aggtcccagg 1260
ctcctatgca agtttttttt cccattata tcacacttat ttagcaaggg accttgtggt 1320
ttgtggcttt agtggccatc atttctgggg gttggctttt accctttttc ttgaatattt 1380
gccaccaagt gaaaaatgtt aggacataaa cccttgccag gtccctttca tttgctatct 1440
ctattatttg aaaggaccta aaaattgggt taatggggca gaaatctgag gaatggacat 1500
ttctaattcc tgtttgttga agggaagttg ctggaaagag catcagtact tgtttctatg 1560
cagatgcctg ggccgtagct tgtctgtagc gtctgtataa ttataatgtt gccagtggtg 1620
agggaaagag ctttcctact tgcactcttc taccaaggcc ctgttagtgc actgattata 1680
gtactgacag ataaagccta gatgagagag atagagagtg agtacatgca cactcatgtg 1740
caaaccact cagagatgca tttggaacag tgctactgaa aggcagtagt cattttcaag 1800
actgaattcc aaacatgggt tattgggtgag ttaggaacat gtaaggccaa gtacactgag 1860
agcctttttg aaagtaattg agtggaaact tgatgccatt ctaaatacaag gcataatccag 1920
gtggcccggt ttgaaactcac tccactgtac ccagtctcaa aggccagggt gctaagaaac 1980
caggagtaaa agagtcaagt gaccatcatt tcacctgctg cttgccccca atagtagtct 2040
ctgtgaggcc ttactgacct cacctaggaa gtgatttttg agcccttggt tcagggctgt 2100
ggcctccctg ctctatcctg aataaagcag acagggtgtg agattttggc catgaaagca 2160
tggctaatag ggccacagtc cctttaaaga aacatgggtt gactctgggt ttcttggggg 2220
aaaataccac aatcaccgat gcaaacattg gaagattatt gagagcccta gaaagctgct 2280
gtgatcccag tagaaaatat gtcccagaaa tgtcatgaga ttgctgtgtg ttgcctggga 2340

81
cut

cacagatcaa gggcctatct tggagagctg gggaccagca gtctgcctgg aggccaggga	2400
gcagtggctg agtagctctg cctttgctct ggtctatacc ttaagaatgc caaagaatga	2460
atttcaacgc ctgcctttgg cactctgact taaagtgcaa aaagcttctg tggcgaggca	2520
tgctatcatg gaatgagact ggcttgcctt aggcctaatg gatgggcagt ctttttgcag	2580
aggctatggg aagaggggtga taatagaaga gtggcagcta taggaaatta tcaacatacc	2640
ttggccagca agttagagaa tctggcaatg gatgaactga aagtgatgaa ctggcaggga	2700
taacaaagaa cctaacattt attaagcacg tttttattaa ctgctcagtg tttcatattc	2760
atgcaagtat tctcatttta cagagaaaga aattatggcc cagggggcta aagtaaacia	2820
ctcaaggga catagaaagt aaataaaagg actgtgattt gaatccaggc cactcttagc	2880
ccatgctgtt ttccctttgc cacactgtgg taggtgtttg aacagaggcc acattactag	2940
agttggcatg actcttgact cttgcctgcc taacaaaata ttgaaaggca aacatttgaa	3000
ggagggaggg ggtgcagggt cagtttatat ggaaatgcaa actgggctgg aagatattcc	3060
tgagttaggc tttctcttca tattcagctt gcacatttgg taatgttttt aaaatgatca	3120
tctaatttta ttttgtgaag tgaaggattt gtgttttagt tggcagttgt taagtccttg	3180
gcttgccatt tttcaaaaag taaaaaggtc ctacacaggtg tctccatact tcgccaaggt	3240
tgtagcatgg gcagtttcag tttcagccta agagactggg gacatccaca aatgcagttt	3300
tagaagcaga aaaggctctg gtgcctctgc agtacttgat gtattggggg caaatctcta	3360
caaattttttc tgtggtgata gcaaaatcaa gagatggctt acaaaaagaa atattgaatt	3420
tttattttttg aagtttttgt tttttaaaag gttgggggtg ttcagccact gagggacaaa	3480
acttagcatc taattttcaat tatagtgtca tgcagagtat ttctaaagta attggttata	3540
atgggaaagt attctctttt caagaagttc tttgattctg taataactag aacaaataaa	3600
gtagtaaaag aagaaatagt tctgtgacta ggaaaaaatt gcttttgaga gaacatagat	3660
caattatact acttctaagg tagctgcaga taagtggcct tgacacatta caagcctgga	3720
aaaaaacatc agaaataata aaaaatttca gagagaaatc agataccttt ttttttcttt	3780
tttttttctt ttttttatta tactctaagt tttagggtac atgtgcacat tgtgcagggt	3840
agttacatat gtatacatgt gccatgctgg tgcgctgcac ccactaatgt gtcacttagc	3900
attaggtata tctcccagtg ctatccctcc cccctccccc gacccaccca cagtcctccag	3960
agtgtgatat tccccttctt gtgtccatgt gatctcattg ttcaattccc acctatgagt	4020

gagaatatgc ggtgttttgt tttttgttct tgcgatagtt tactgagaat gatggtttcc 4080
aatttcaccc atgtccctac aaaggatatg aactcatcat tttttatggc tgcatagtat 4140
tccatggtgt atatgtgccca cattttctta atccagtcta tcattgttgg acatttgggt 4200
tggttccaag tctttgctat tgtgaatagt gccgcaataa acatacgtgt gcatgtgtct 4260
ttatagcagc atgatttata ctcatattggg tatataccca gtaatgggat ggctgggtca 4320
aatgggtattt ctagttctag atccctgagg aatcgccaca ctgacttcca caatggttga 4380
actagtttac agtccaacca acagtgtaaa agtgttccta tttctccgca tcctctccag 4440
cacctgttgt ttctgactt tttaatgatt gccattctaa ctggtgttga gatgatatct 4500
cata 4504

31
data
<210> 26
<211> 3101
<212> DNA
<213> Homo sapiens
<400> 26

tgtgcgtcgc gctctcgccc tcctcttccc gctgcagtgt ctatggagcg aggetacgtt 60
tcattgccgc cctggcttaa cccttccggc gcctaaaagg acggccggcc ggccgggtccc 120
ttgcaccagg aagaagtctt agcagccagc gggccctggt caggaaaactc taaggtacaa 180
ggaaaacagt tgaggaagga gccagagcgc tccggtttgg tcctcgggct tcgctggggc 240
ggggcgccagg cgttggcttt aagaaagggg aggggacagt gcaatccggg ttgcccgcg 300
attcggccaa ggaatcttcc gctcgtccg gagcgaggag cctgtaaaga ggctgttccc 360
agctccagct ctaacctcgc ctacaccttg ggccggccca atgtcacgtt tgcaattgct 420
caggaaggat ccggcccgtc tccggaggca agtcgggctg cggtttttgc tgcttatctg 480
ggaaggcgat gcctaaggga catgctgctt gctaggcagc accctgccgg gatccgactg 540
cgatagttag ctctccctgg ccctgaagcc atcgccgggg cgctgttct ctgtccggac 600
cagccagcgc tcctcaggag tctcaactgaa acagaaccat gggtcacccc ccgctggagt 660
tcagcgactg ctacctggac agccccgatt tccgcgagag gctcaagtgt tatgagcagg 720
aactggagag gaccaacaaa ttcataaag acgtaataa agacggcaac gcgcttatca 780
gcgctatgag aaattattct tctgctgttc agaaatttcc ccagacgctg cagtcatttc 840
agtttgattt cattggagac actctgactg atgatgaaat taacatcgct gaatccttca 900

aggaatttgc tgaattgctc aacgaggtag aaaatgagag gatgatgatg gtacacaatg 960
 ctagtgattt gctgattaa cccttggaat atttcggaa ggaacaaata ggcttcacca 1020
 aggagcggaa aaagaaattt gaaaaggatg gtgagagggt ttattcttta ctggatcggc 1080
 acttacacct gtcttcaaaa aagaaagaat ctgagttaca agaggcagac ctacagggtg 1140
 acaaggagag gcacaatttt ttcgagtcct ctcttgatta tgtttatcaa atccaggaag 1200
 ttcaggagtc caagaagttc aatattgtgg agcctgtctt ggcctttctt catagtctgt 1260
 tcatttctaa cagcctgact gtggagctca cacaggattt cctcccatac aaacaacagc 1320
 tccaactcag ttacagaat acaagaaatc atttctccag taccgggaa gagatggaag 1380
 aacttaagaa aaggatgaaa gaagctccc agacatgcaa acttcagga cagccaacta 1440
 ttgaaggcta tctctataca caagagaaat gggctttagg aatatcctgg gtgaaatact 1500
 attgccagta tgagaaagag accaaaacac tgaccatgac gcctatggag cagaagccag 1560
 gtgctaagca ggggcccttg gacttaacac tgaagtactg tgtgagaagg aagacggagt 1620
 ctatcgacaa gaggttctgt tttgacatag aaactaatga aaggccagga accatcactc 1680
 tgcaggccct ttcagaagct aacagaaggc tatggatgga agccatggat gggaaagaac 1740
 ctatctacca cagccctata acaaaacagc aagaaatgga gctaaatgaa gtgggcttca 1800
 agtttgtcag gaagtgcac aatattattg agaccaaagg gatcaagaca gaagggttgt 1860
 accgcactgt gggcagcaat attcaggttc agaagctgct gaatgccttt tttgatccta 1920
 aatgcccagg agatgttgat tttcataata gtgactggga cattaagaca atcaccagct 1980
 ccttgaaatt ctacctcagg aatctttctg aacctgtcat gacctataga cttcaciaag 2040
 agctgggtctc tgctgccaag tctgacaacc tggattaccg cctaggagct attcactccc 2100
 tggatatataa gctaccagaa aagaaccgag agatgctgga acttctgata agacacttgg 2160
 tcaatgtgtg tgagcacagc aaagagaatc ttatgacccc ctccaacatg ggagtaatct 2220
 ttggggccac cctgatgaga gctcaggagg aactgtggc cgccatgatg aacatcaaat 2280
 tocagaacat agtgggtgga atactaatcg agcactttgg caagatctat ttaggtccac 2340
 ctgaggaaag cgtgcaccg ccagtgcctc cgctcgggt gacagcaaga aggcacaaac 2400
 caatcacgat ttcaaagcgc ttgctgcgag aaaggacggg tttctatact tcttccttgg 2460
 atgaaagcga agatgaaatc caacatcaaa caccgaatgg tactatcacc agcagcatag 2520
 aaccccccaa gccaccacaa cccccaaac tacctattca gaggagtggg gaaactgatc 2580

31
 cat

ctgggaggaa gtccccaagc aggcctattt tggatggcaa gttggagccc tgcccagagg 2640
 tggacgtggg gaagttggtg tctaggctgc aggatggagg gaccaagatc accccaaagg 2700
 ccaccaatgg acccatgcc a ggctctgggc ccaccaagac cccctctttc cacataaaga 2760
 gaccagctcc ccggccccctg gccaccaca aggaggggga tgctgacagt ttcagcaaag 2820
 tgcggcctcc aggagaaaag ccaaccatca tccgcccccc agtgaggccc ccagatcctc 2880
 cctgccgggc agctactccc caaaagccag aaccaaagcc agatattgtg gctggcaatg 2940
 cgggggaaat cacatcatct gtggtggctt ccaggaccag gttttttgaa acagcttccc 3000
 ggaaaacagg aagttctcaa ggcagacttc ctggagatga aagttgaggc tacaggtttt 3060
 aaaagccttg gcctcagagg accctttcca ggttctgaaa g 3101

<210> 27
 <211> 802
 <212> PRT
 <213> Homo sapiens
 <400> 27

Met Gly His Pro Pro Leu Glu Phe Ser Asp Cys Tyr Leu Asp Ser Pro
 1 5 10 15

Asp Phe Arg Glu Arg Leu Lys Cys Tyr Glu Gln Glu Leu Glu Arg Thr
 20 25 30

Asn Lys Phe Ile Lys Asp Val Ile Lys Asp Gly Asn Ala Leu Ile Ser
 35 40 45

Ala Met Arg Asn Tyr Ser Ser Ala Val Gln Lys Phe Ser Gln Thr Leu
 50 55 60

Gln Ser Phe Gln Phe Asp Phe Ile Gly Asp Thr Leu Thr Asp Asp Glu
 65 70 75 80

Ile Asn Ile Ala Glu Ser Phe Lys Glu Phe Ala Glu Leu Leu Asn Glu
 85 90 95

Val Glu Asn Glu Arg Met Met Met Val His Asn Ala Ser Asp Leu Leu
 100 105 110

Ile Lys Pro Leu Glu Asn Phe Arg Lys Glu Gln Ile Gly Phe Thr Lys
 115 120 125

Glu Arg Lys Lys Lys Phe Glu Leu Asp Gly Glu Arg Phe Tyr Ser Leu
130 135 140

Leu Asp Arg His Leu His Leu Ser Ser Lys Lys Lys Glu Ser Gln Leu
145 150 155 160

Gln Glu Ala Asp Leu Gln Val Asp Lys Glu Arg His Asn Phe Phe Glu
165 170 175

Ser Ser Leu Asp Tyr Val Tyr Gln Ile Gln Glu Val Gln Glu Ser Lys
180 185 190

Lys Phe Asn Ile Val Glu Pro Val Leu Ala Phe Leu His Ser Leu Phe
195 200 205

Ile Ser Asn Ser Leu Thr Val Glu Leu Thr Gln Asp Phe Leu Pro Tyr
210 215 220

Lys Gln Gln Leu Gln Leu Ser Leu Gln Asn Thr Arg Asn His Pro Ser
225 230 235 240

Ser Thr Arg Glu Glu Met Glu Glu Leu Lys Lys Arg Met Lys Glu Ala
245 250 255

Pro Gln Thr Cys Lys Leu Pro Gly Gln Pro Thr Ile Glu Gly Tyr Leu
260 265 270

Tyr Thr Gln Glu Lys Trp Ala Leu Gly Ile Ser Trp Val Lys Tyr Tyr
275 280 285

Cys Gln Tyr Glu Lys Trp Thr Lys Thr Leu Thr Met Thr Pro Met Glu
290 295 300

Gln Lys Pro Gly Ala Leu Gln Gly Pro Leu Asp Leu Thr Leu Lys Tyr
305 310 315 320

Cys Val Arg Arg Lys Thr Glu Ser Ile Asp Lys Arg Phe Cys Phe Asp
325 330 335

Ile Glu Thr Asn Glu Arg Pro Gly Thr Ile Thr Leu Gln Ala Leu Ser
340 345 350

Glu Ala Asn Arg Arg Leu Trp Met Glu Ala Met Asp Gly Lys Glu Pro
355 360 365

Ile Tyr His Ser Pro Ile Thr Lys Gln Gln Glu Met Glu Leu Asn Glu
370 375 380

Val Gly Phe Lys Phe Val Arg Lys Cys Ile Asn Ile Ile Glu Thr Lys
385 390 395 400

Gly Ile Lys Thr Glu Gly Leu Tyr Arg Thr Val Gly Ser Asn Ile Gln
405 410 415

Val Gln Lys Leu Leu Asn Ala Phe Phe Asp Pro Lys Cys Pro Gly Asp
420 425 430

Val Asp Phe His Asn Ser Asp Trp Asp Ile Lys Thr Ile Thr Ser Ser
435 440 445

Leu Lys Phe Tyr Leu Arg Asn Leu Ser Glu Pro Val Met Thr Tyr Arg
450 455 460

Leu His Lys Glu Leu Val Ser Ala Ala Lys Ser Asp Asn Leu Asp Tyr
465 470 475 480

Arg Leu Gly Ala Ile His Ser Leu Val Tyr Lys Leu Pro Glu Lys Asn
485 490 495

Arg Glu Met Leu Glu Leu Leu Ile Arg His Leu Val Asn Val Cys Glu
500 505 510

His Ser Lys Glu Asn Leu Met Thr Pro Ser Asn Met Gly Val Ile Phe
515 520 525

Gly Pro Thr Leu Met Arg Ala Gln Glu Asp Thr Val Ala Ala Met Met
530 535 540

Asn Ile Lys Phe Gln Asn Ile Val Val Glu Ile Leu Ile Glu His Phe
545 550 555 560

Gly Lys Ile Tyr Leu Gly Pro Pro Glu Glu Ser Ala Ala Pro Pro Val
565 570 575

Pro Pro Pro Arg Val Thr Ala Arg Arg His Lys Pro Ile Thr Ile Ser

580

585

590

Lys Arg Leu Leu Arg Glu Arg Thr Val Phe Tyr Thr Ser Ser Leu Asp
595 600 605

Glu Ser Glu Asp Glu Ile Gln His Gln Thr Pro Asn Gly Thr Ile Thr
610 615 620

Ser Ser Ile Glu Pro Pro Lys Pro Pro Gln His Pro Lys Leu Pro Ile
625 630 635 640

Gln Arg Ser Gly Glu Thr Asp Pro Gly Arg Lys Ser Pro Ser Arg Pro
645 650 655

Ile Leu Asp Gly Lys Leu Glu Pro Cys Pro Glu Val Asp Val Gly Lys
660 665 670

Leu Val Ser Arg Leu Gln Asp Gly Gly Thr Lys Ile Thr Pro Lys Ala
675 680 685

Thr Asn Gly Pro Met Pro Gly Ser Gly Pro Thr Lys Thr Pro Ser Phe
690 695 700

His Ile Lys Arg Pro Ala Pro Arg Pro Leu Ala His His Leu Glu Gly
705 710 715 720

Asp Ala Asp Ser Phe Ser Lys Val Arg Pro Pro Gly Glu Lys Pro Thr
725 730 735

Ile Ile Arg Pro Pro Val Arg Pro Pro Asp Pro Pro Cys Arg Ala Ala
740 745 750

Thr Pro Gln Lys Pro Glu Pro Lys Pro Asp Ile Val Ala Gly Asn Ala
755 760 765

Gly Glu Ile Thr Ser Ser Val Val Ala Ser Arg Thr Arg Phe Phe Glu
770 775 780

Thr Ala Ser Arg Lys Thr Gly Ser Ser Gln Gly Arg Leu Pro Gly Asp
785 790 795 800

Glu Ser